

Embracing Analytics in the Drinking Water Industry

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Edited by

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Preface

The purpose of this book is to introduce ‘*analytics*’ to practicing water engineers so that they can incorporate the covered subjects, approaches, and detailed techniques within their daily operations, management, and decision-making processes. Also, undergraduate students as well as early graduate students who are in water and environmental systems concentration areas will be exposed to established analytical techniques, along with many methods that are currently considered to be new or emerging and maturing.

This book covers a broad spectrum of water industry analytics topics in an easy-to-follow manner. The overall background and context are motivated by (and directly drawn from) actual water utility projects that we have worked on over numerous recent years. Many chapter authors are the editor’s previous students and collaborators that have worked together. We strongly believe that the water industry should embrace and integrate data-driven fundamentals and methods into their daily operations and decision-making process(es) in an effort to replace more traditional and established ‘rule-of-thumb’ and (arguably) weaker heuristic approaches – and an analytics viewpoint, approach, and culture is key to this industry transformation. Analytics can support numerous aspects of water utility planning, operations, and management, and the organization of this book naturally follows pace by including three principal sections – planning, operations, and management.

Water is essential for human well-being and survival, and throughout the water industry, it is becoming increasingly imperative that in-house analytics capability and championship be developed and integrated to address the current and transitional challenges we face. Again, one of our main contentions is that analytics will contribute substantially to future efforts aimed at providing innovative solutions that make the water industry more sustainable and resilient. We sincerely hope that this book provides a range of learning experiences that help to share and expand this view.

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